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The effectiveness of Lifestyle interventions on weight control of adolescents with abdominal obesity: a randomized controlled trial based on Health Belief Model

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Background: The objective of this study was to determine the effects of lifestyle intervention on the anthropometric measurements by using the Health Belief Model (HBM) among obese adolescents in Iran. **Methods:** In this parallel randomized controlled educational trial, 90 obese adolescents 12–18 years) were chosen (44 in control and 46 in test group). Education based on Health Belief Model was conducted. The main components of the program were on nutrition and physical activity as two major factors in the weight control of obese people. Participants in both the control and intervention groups completed questionnaires at baseline (T0), end of 3 months of intervention (T1) and 3 months after end of intervention (T2).

Results: The Multivariate test results showed that there were significant effects of interaction of time and group for knowledge scores ($F=101.19$; $p<0.001$), Perceived susceptibility ($F=5.01$; $P=0.02$), Self-efficacy ($F=6.18$; $P=0.01$) and Waist circumference ($F=5.643$; $p=0.004$).

Conclusions: Results of this study showed that the 12-weeks educational intervention program using the HBM was effective to increase knowledge, perceived susceptibility and self-efficacy of the participants.

Keywords: Lifestyle interventions, Obese Adolescents, Health Belief Model, Anthropometry measurement, Abdominal obesity

Single-step immobilization of partially purified catalase in order to application in food industries

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Background: H₂O₂ is a powerful oxidant, and is used as a bleaching or microbiocidal agent in the food and dairy industries and also some lactic acid bacteria in dairy Under microaerobic conditions produces H₂O₂, which eventually causes growth arrest. However, due to its toxicity to environment and human health, H₂O₂ needs to be eliminating after industrial process. Catalase is one of those enzymes that catalyze the decomposition of H₂O₂ in to water and oxygen. Production of microbial catalase can be widely used in the several parts of industry. Kocuria ASB107 is a radioresistant and non-pathogenic bacterium that was screened and characterized from radioactive spring in Ramsar. This bacterium can produce too much catalase. The aim of this study is to semi-purification of catalase from Kocuria ASB 107 with native polyacrylamide gel electrophoresis and immobilization of it in to introduce a model of immobilization. polyacrylamide gel.

Methods: The bacterial culture was cultivated in TSB medium and then the biomass was collected in the bacteria stationary phase. The cells were lysed after 80min incubation in lysozyme solution at 37°C. The supernatant was isolated by centrifuge and catalase activity of the cell extract was checked by monitoring A240 in the presence of substrate (H₂O₂). Then the cell lysate was loaded on top of a native polyacrylamide gel (10%). Zymogram was obtained by adding diluted H₂O₂ on the gel surface. The band of catalase was

cut and removed from the gel and to determine the degree of purification, the specific activity of catalase was measured by monitoring A240 in the presence of substrate (H₂O₂). The remained gel was stained by coomassie blue. Immobilization of catalase in polyacrylamide gel was performed by formaldehyde (5%). After immobilization, catalase activity of immobilized sample and control sample was measured in three times (5th day, 7th day, and second month).

Results: in this study, catalase was semi purified and catalase activity was significant difference between immobilized sample and control sample at all three times (5th day, 7th day, and second month).

Conclusion: According the results, a model to immobilization of catalase is suggested that can be optimized for use in the food industry.

Keywords: catalase purification, catalase immobilization

Assessment nutritional status and quality of sleep among elderly

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Introduction: Sleep quality is affected by multiple factors such as environmental, health status, and pharmacological factors in older adults. Very a Few researches assess nutritional status and quality of sleep among elderly. This study was conducted to aim response to this question that whether the quality of sleep could be affected by nutritional status among older adult or not.

Methods: Two hundred three older adult residents of KCF, who consent to participation and were not a known case of malignancy and end staging diseases participated in this study after signing of consent forms. Demographic data were gathered using a valid questionnaire. Nutritional statuses were assessed using mini nutritional assessment (MNA), and the quality of sleep evaluated by Pittsburgh quality of sleep index (PQSI) by a trained researcher. Anthropometric measurement such as height, weight, calf circumference, mid arm circumference, waist circumference, and hip circumference were measured according standard methods. Relationship between PQSI and MNA Scores was evaluated by utilizing logistic regression analysis.

Results: Mean age of the participants was 76.47 (8.58) years. 66 (32.5% of the participants has a poor sleep quality and 66 (32.5%) of them were at risk of malnutrition or malnourished. Odds ratio of association between nutritional statuses which were measured by MNA was 1.74 with CI 95% 0.94-3.22 in univariate logistic regression model. After adjustment for BMI, age, sex and waist and hip circumference, odds ratio was calculated of 2.5 with CI 95% 1.22 – 5.14.

Conclusion: It seems that older adults, who are at risk of malnutrition or are malnourished, about 2.5 times more are at risk of poor quality of sleep than those who have good nutrition status.

Keywords: Sleep quality, older adults, Nutritional status

Factors related to the duration of exclusive breast-feeding and breast-feeding amongst women in Qazvin, Iran

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Background: To evaluate predictors of exclusive and total breast-feeding during the first year of life among Iranian infants from Qazvin.

Methods: In this cross-sectional survey, In 2012, 991 infants

with their parents invited to participate in this study from 10 health centers and 11 health stations in Qazvin. Data from a total of 779 at 6 months and 551 at 12 months for children aged 6–30 months and their parents were analyzed.

Results: Our data showed 98% of infants were breastfed and 91.2% were exclusively breastfed at one month of age. Maternal education was negatively associated with exclusive breast-feeding at 1 and 2 months of age. A significant positive trend was observed between the number of children and exclusive breast feeding. At 3,4,5 and 6 months of age the odds of exclusive breast-feeding were significantly lower for low birth weight compared with normal weight infants. Maternal and paternal education,maternal job and sex of baby were significantly associated with breast-feeding at 6 months. Maternal education turned out to be the most stable variable as it was significantly associated with breast-feeding at all ages.

Conclusion: Our data shows that infants in Qazvin,Iran,have desirable situation in terms of exclusive breast feeding and breast-feeding. Maternal and paternal education,maternal job and sex of baby are predictors for duration of breast feeding.

Keywords: exclusive breast-feeding,duration,determinants

Determination the effects of boron supplement on systemic symptoms associated with primary dysmenorrhea, need to analgesic and disruption in daily activity

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Background: Primary dysmenorrhea is one of the most common problems of women,that treatment is non steroidal anti inflammatory drugs. Based on the anti-inflammatory effects of boron supplement this study was to determine the effects of boron supplement on systemic symptoms associated with primary dysmenorrhea,need to analgesic and disruption in daily activity.

Methods: A triple blind clinical trial was conducted on 113 students. Samples after matching the intensity of dysmenorrhea were randomly divided into two groups . For boron group (n = 58) was administered one capsules containing 10 mg of boron for a period of 2 days prior to the third day of bleeding and placebo group (n = 55) threated with similar capsules containing lactose with the same instruction. Systemic symptoms were compared and follow-up with verbal multidimensional questionnaires. Data obtained were analyzed by using Friedman test,Mann-Whitney,Wilcoxon and Fisher.

Results: In both groups,the systemic symptoms of dysmenorrhea,need for analgesics,disruption in daily activities decreased after the intervention than before the intervention,except in cases of diarrhea this decrease was statistically significant in after intervention between the two groups (p<0.05). **Conclusion:** According to the results,boron supplement were effective in reducing systemic symptoms associated with dysmenorrhea,work dysfunction and need for analgesic. Further studies are recommended with boron supplement to find more applications in obstetrics and gynecology. **Keywords:** Systemic symptoms of of dysmenorrhea, boron supplement analgesic.

Keywords: dysmenorrhea systemic symptoms, boron supplement, analgesic

Effect of olive oil with low calorie diet on blood lipids in hyperlipidemic patients

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Background: Serum lipid abnormality is a risk factor for cardiovascular disease. The aim of this research was to study the effect of olive oil with low-calorie diet on blood lipids in hyperlipidemic patients.

Methods: The study was done on fifty eight hyperlipidemic patients of both sexes and age range of 25–65 years. The patients received low-calorie diet based on 1400 kcal energy per day for 4 weeks,containing 32% fat,18% protein and 50% carbohydrate. The intervention group received low-calorie diet including 30 g/d olive oil. **Results:** Weight,body mass index,waist and hip circumferences were significantly reduced (P<0.05) after 4 weeks in both groups. Treatment with olive oil was associated with a significant reduction (P<0.05) in low density lipoprotein.

Conclusions: According to the results,we can state that olive oil with low calorie diet,as a part of healthy diet,had beneficial effect on decreasing serum LDL,and may reduced the cardiovascular risk factor in hyperlipidemic patients.

Keywords: Olive oil, low calorie diet, hyperlipidemia

The knowledge, attitude and practice of health care staff about lactation nutrition in Ajabshir and Bonab

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Background: Nutritional knowledge is one way to achieve proper and balanced nutrition in whole life. Since lactating women are vulnerable groups of community,nutrition in this period plays significant role in maternal and infant health. As mothers get most of their information from health centers and the knowledge of the staff in health centers on nutrition during lactation is necessary for proper education,in this study,nutritional knowledge of health care staff was investigated in Ajabshir and Bonab city.

Methods: In this study,sixty staff randomly selected from health care centers in Ajabshir and Bonab cities. In order to assess the knowledge on nutrition during lactation,staff completed a questionnaire containing 10 questions. For evaluation,the questionnaire was adjusted based on 20 scores and subjects was divided into three groups with poor,average and good knowledge based on the scores on the questionnaire. SPSS software program was applied for data analyzing.

Results: The results showed that in Ajabshir city,57% of staff had good knowledge on nutrition during lactation,33% had moderate knowledge and awareness of 10% was poor. In Bonab city,43% of staff had good knowledge on nutrition during lactation,37% had moderate knowledge and awareness of 20% was poor.

Conclusion: According to the results,most of the health care staff had proper knowledge on nutrition during lactation. Given the importance of nutrition in lactation and the need for proper education to mothers,and since a significant percentage of the staff did not have adequate knowledge of nutrition during lactation,training courses for health care workers is essential in this regard.

Keywords: Knowledge, Lactation, health care staff, West Azarbaijan

Evaluation of breast milk total antioxidant capacity (TAC) levels in third and fourth months of lactation

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